Suicide Attempts among Native Americans in Southern SE Alaska.

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Abstract

This study looks at suicide attempts, a leading cause of injury morbidity, among Native Americans in Southern Southeast Alaska. The purposes of the study are to quantify the number of suicide attempts made by Native people in Southern Southeast Alaska, to see if there is a significant correlation between substance abuse, mental health diagnoses and suicide attempts, and to recommend strategies to reduce suicide attempts and thereby suicide completion. I looked at the records of suicide attempts in the population served by the SouthEast Alaska Regional Health Consortium (SEARHC) Health Center between 1994-1996. My study compares a group of 99 cases to a control group (matched by age and sex) of patients from our population who had not attempted suicide. Each group was reviewed for the presence of mental health and/or substance abuse diagnoses in their medical history; results were compared using a chi-square test. In the case of both diagnoses, the difference between the two groups was found to be significant, $P<0.0001$. It appears that people in this population who have attempted suicide have a greater history of mental health and substance abuse issues than those who have not attempted suicide. Providers treating patients with mental health and substance abuse issues should be aware of this finding.

Introduction

Suicide is a tragedy for both families and society.(1) Suicide is the leading cause of injury mortality among Native people in Southeast Alaska, and suicide attempts are the fourth leading cause of injury hospitalization for this same group. In 1987, it was estimated that the financial cost of suicide attempts was $116.4 million dollars (2). The psychological and social costs of suicide attempts are far more difficult to quantify.

Alaska Natives have a rate of 52 suicide deaths/100,000 people annually. Among Southern Southeast Alaska Natives, that rate is lower at 32/100,000 (3). However, the rate among Native people in Southeast is far greater than that of all races in Southeast (17/100,000) and in the U.S. in general (12/100,000) (4). For every completed suicide, researchers estimate there are approximately 25 suicide attempts (5). Based on the previous estimates, there would be 1,300 suicide attempts per 100,000 people among Indian people in Alaska each year.

This project is a case-control study with three objectives. The first is to quantify the number of suicide attempts made by Native people in Southern Southeast Alaska. The second objective is to determine if there is a significant correlation between substance abuse, mental health diagnosis and suicide attempts. The final objective is to recommend strategies to reduce suicide attempts and, thereby, suicide completion.

Materials and Methods:

Study Area. The SEARHC Health Center in Ketchikan, Alaska provides ambulatory care services to Native people who live the communities of Ketchikan, Saxman, Craig, Klawock, Hydaburg, Kasaan and Metlakatla and the surrounding areas. Health Center staff also provide inpatient physician care to Native patients admitted to Ketchikan General Hospital. There are approximately 4,250 Native people who live in the communities served by the clinic. Resource and Patient Management System (RPMS) data from the health center show that there are 4,971 active users of the system. Suicide attempts were made by people ages 13-81. Of the people who use the Health Center, 3,583 are in this age range. Three Pacific Northwest Coast tribes make up the majority of the Native people in the region. These tribes are the Tlinget, Haida and Tsimpsian. However, people from a wide variety of Tribes live in the area and receive care at the SEARHC Health Center.

Case Definition. To be included in this study, a person had to be a Native American patient at the SEARHC Health Center who attempted suicide between 1/1/94-12/31/96. The patient had to have an active and accurate health record number, and their suicide attempt had to have been entered into that health record in such a way that it was coded into the RPMS system as a suicide attempt. To be a control, a person had to be a Native American patient at the SEARHC Health Center between 1/1/94-12/31/96 who was not found to have attempted suicide through one of three RPMS searches.

Data Collection. Three different RPMS query methodologies were used to obtain the samples. The first data search used the Fileman system to retrieve cases that had an e-code that indicated a suicide attempt or gesture. The second

data search used Q-man to retrieve cases that were coded with an ICD-9 code of 300.9. This code is used by our data entry person whenever a suicide attempt or gesture was indicated by the provider on the PCC form. In addition, I used the RPMS default diagnosis of suicide attempt to find any additional subjects. All data were collected for patients seen through the SEARHC Health Center system between January 1, 1994 - December 31, 1996. If a case appeared in both searches, it was counted as only one case. Cases were eliminated from the data set if the RPMS system was not able to locate an active health record for the case. Using this protocol, 99 cases were generated for the study period.

A list of the cases by case number, age and sex was generated. A stratified random sample of patients was selected from patients who were not in the case group. To do this, a list of SEARHC Health Center patients was stratified by age and sex. From this list, controls were selected at random from each age and gender group to match the age and sex distribution of case subjects. Controls were not matched by community or tribal membership. All controls were Native American people who had used the SEARHC Health Center during the time of the survey.

A Health Summary was generated for each case and control. This is an RPMS document with the ability to outline a patient's recent medical history. The form has several different fields, such as active problems, allergies, recent prescriptions, and inpatient stays. Each field has a time limit associated with it. Time limits range from 150 days to 4 years or the last 9 to 20 visits. The form serves as a tool for the provider when seeing a patient; it can be reviewed for recent and pertinent health care services provided to the patient. A survey in EpiInfo6 was used to review the RPMS Health Summary for each record.

Permission and approvals. Permission to query the RPMS data base was obtained from the Director of Health Information Services and the SEARHC Health Center Director. Approval for the survey design was obtained from the Clinical Director and Director of Social Services at the SEARHC Health Center.

Results

The data set is a reasonable representation of the number of patients who received care for a suicide attempt through the SEARHC Health Center system. However, it is not an exhaustive list of all those who received care for or attempted suicide during the time period. A suicide attempt could have been missed by this survey if information about attempt was not entered into the RPMS system or if the patient did not seek care for the suicide attempt. For example, a control in this study contains information about a suicide attempt in the patient's health summary, but the patient was not listed in the RPMS data searches for suicide attempts. This case is one out of 198, or 0.5%.

Method of Suicide Attempt	#
Stab Wound	1
Suicide Attempt	5
Suicide Gesture	4
Laceration	7
Ideation	12
Over Dose	28
No mention of attempt in HS	42

Table 1: Method of Suicide Attempt

The suicide methods used by cases in the study are listed in Table 1. Overdoses accounted for the most suicide attempts, followed by self-inflicted cutting injuries. Nine of the cases contained mention of the "suicide attempt" or "suicide gesture" in the health summary, but there was no additional detail about the incident. In 42% of the health summaries, the suicide attempt was not mentioned. Fifty-seven percent of the cases were women. Most of the cases (57%) were under 30.

In 42 of the cases (42%), mental health issues were listed as a diagnosis prior to the event. Case health summaries were also reviewed to see if drugs and/or alcohol played a part in the attempt or issues of abuse were recorded prior to the attempt. In 44 of the cases (44%), alcohol or drugs were either used at the time of the attempt or were recorded as a health issue prior to the attempt. The remaining 55% did not have an alcohol or drug relationship recorded in their health summary. It is important to note that mental health and substance abuse issues may have been present in the health history and/or suicide attempt of a case. The health summary was used as the survey tool because it is the

primary introduction a provider has to a patient when they are seen at the clinic. Of the cases, 26 (27%) had both mental health and drug/alcohol issues identified in their health summary. Neither was present in 36 (38%) of the cases.

The control subjects were reviewed for the presence of the same issues in their health summaries. Eighteen (19%) of the health summaries of controls had mental health issues diagnosed. Also, 17 (18%) of the health summaries of cases contained drug and/or alcohol listed as health issues. Both mental health and substance abuse issues were present in 25 of the cases and in only 9 of the control subjects. Either were present in 19 of the cases and in 70 of the control subjects.

There are significant differences between the two groups with regard to substance abuse and mental health diagnoses. There were 44 diagnoses of substance abuse in the cases and 18 diagnoses in the controls (p-value less than 0.01). The cases thus were far more likely to have diagnoses of substance abuse than were the controls. A similar finding is present with regard to mental health issues. In 42 of the cases, mental health issues were diagnosed prior to a suicide attempt. The same was true in 18 of the controls (p-value less than 0.01). Thus, cases were far more likely to have a mental health diagnoses than were the controls.

DISCUSSION

Patients who attempted suicide during the study period were more likely to have substance abuse and/or mental health diagnoses contained in their health summaries than were people who did not attempt suicide during the period. This finding corroborates other research. Moscicki et al found that people with a diagnosis of a mental health disorder "were more likely to have either thought about suicide or attempted suicide than were persons with no psychiatric diagnosis".(6) They also found that thoughts of death, suicidal ideation, desire to die and suicide attempts were significantly higher among women and young adults ages 18-24. Data in this study shows similar trends. The research by Moscicki goes on to look at socioeconomic factors, hospital admission history, medication history and family/ relationship history. All of these areas are worthy of further study in the Alaska Native population.

Researchers have begun to develop estimates of the prevalence of suicide attempts among defined populations. Most research has been through self-report. Subjects are asked if they have ever attempted to kill themselves, or if they have ever thought of killing themselves. Meehan et al found an estimated lifetime prevalence of attempted suicide among high school students to be 14% (7). The Moscicki catchment study had 10.1% of respondents say that they had "felt so low (they) thought of committing suicide" (6). The variation in rates could be in part due to different ways of asking the question, differences in the populations studied, and the fact that the Meehan study focused only on teens.

This study found 99 cases of attempted suicide out of 3,583 people at risk. (Note: I used the number of active clinic users ages 13-81 for this figure.) This is equal to a prevalence of 2.68%. It is important to clarify that this is the prevalence of people who have sought care for a suicide attempt. This number does not represent people who have contemplated suicide, or have made a suicide attempt that did not cause them to seek medical care. This is equal to an alarming rate of suicide attempts in Southern Southeast Alaska. The 99 cases are taken from an active-user population of 4,971. This is equal to a rate of 1,931 suicide attempts per 100,000 people. This is 57% greater than the estimated 1,233 suicide attempts for Native people in the whole state (4).

Hlady and Middaugh described the epidemiology of suicide in Alaska for 1983-1984 (8). They chronicled the alarming rate of suicide and pointed to the strong association between suicide and firearms. We know that people who complete an act of suicide have probably tried to kill themselves before. My study suggests a link between substance abuse, mental health issues and suicide attempts among a Native population.

In addition, this study is a starting point for consideration of the use of the Health Summary document as a surveillance tool for suicide attempt and completion in Southeast Alaska and in Indian Country. Previous research has found that there are several factors that, either alone or in combination, have been shown to be associated with suicide attempt and completion. It may be highly valuable to establish a core group of these predictors for Native American people and flag them if they appear as a health issue in a patient's Health Summary. This system could be accomplished through a special demarcation on significant health issues, or through the creation of a separate field on the Health Summary. Core predictors could be determined by each tribe based on the needs of their People.

Limitations. In 42% of the cases, the suicide attempt did not appear anywhere in the health summary. This could happen if a patient had more than 15 visits or it has been 2 years since the suicide attempt, as these are the system

parameters. Because suicide and suicide attempts take place at such an alarming rate in Indian Country, a separate field on the health summary for suicide risk factors and/or prior attempts is a possible intervention opportunity. This field could be of use to providers when they have contact with patients, and could provide information for a surveillance system.

Another limitation is that all the suicide attempts during the time of the study were not captured. This was evidenced by the control subject who's Health Summary contained a mention of a suicide attempt. This error could have occurred through a mistake in data entry. This also could have happened if a record number was incorrectly recorded from one of the three RPMS searches.

This study did not verify tribal enrollment of each case and control. There is a possibility that a person who is not a Native American is contained in the study. This could occur if one of the cases or controls is a non-Native staff person, Coast Guard personnel, Commissioned Corps officer or family member, or non-Native person seen until tribal affiliation proved not to exist.

If a suicide risk alert were to be added to the RPMS system, a health care provider would have an additional piece of information in the Health Summary to use in direct patient care. Upon reviewing a patient's Health Summary, the provider would be alerted to any and all health issues that might indicate a patient who is at risk for self-harm. This alert would provide the caregiver with an opportunity to intervene, either through direct inquiry or through referral to other services. These statements of concern and direct inquiry might give voice to these cries for help that are not heard until damage has been done.

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